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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/771,585	02/03/2004	Louis J. Dietz	SURR1 8/D	3811

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EXAMINER

EDWARDS, PATRICK L

ART UNIT PAPER NUMBER

2621

DATE MAILED: 10/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/771,585

Applicant(s)

DIETZ ET AL.

Examiner

Patrick L Edwards

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02-03-2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 04-23-2004.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With regard to claim 1, the metes and bounds of the term “noise threshold” are not clear as currently recited in the claim. Although the specification and the claims make repeated use of the term “threshold”, there does not appear to be a single mention of the term “noise threshold” in the applicant’s disclosure. Since it appears that this term may have been added to the claims unintentionally and/or erroneously, the examiner will interpret this term, for the purposes of examination, will be interpreted as simply a “threshold”, such as is recited in the other two claims.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-3 are rejected under 35 U.S.C. 102(b) as being anticipated by Green (U.S. Patent No. 3,999,047).

With regard to claim 3, Green discloses scanning a fixed volume capillary containing a particle sample (Green col. 8 lines 53-61, in conjunction with Figures 1b and 3). The Green reference discloses scanning a blood sample 16 on field 14 (these elements are shown in Figure 3). The blood sample 16 disclosed in Green is analogous the ‘sample containing particles’ recited in the claim. It follows that field 14 disclosed in Green is analogous to the ‘capillary’ recited in the claim (the applicant’s specification states that ‘capillary array 10’ contains samples for analysis (see paragraph [0050])). This ‘capillary array’ is shown Figure 1 of the applicant’s specification, and should be compared to element 14 in Figure 3 of the Green disclosure.

Green discloses that this scanning operation generates a plurality of channels of data (Green col. 6 line 63 – col. 7 line 1 in conjunction with Figure 1b).

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Green further discloses that each of these data channels comprises a distinct detectable characteristic and a distinct background characteristic (Green col. 6 lines 7-12, *inter alia*).

Green further discloses sampling each of the channels of data to produce corresponding sets of source pixel values (Green col. 6 line 63 – col. 7 line 1).

With regard to the “improvement” aspect of the claim, the limitations recited in claimed steps (i) and (ii) render claimed steps (c), (d), and (3) moot. Therefore, steps (c), (d), and (e) will not be discussed below.

With regard to the limitations recited in step (i), Green discloses calculating the threshold for particle detection independently in each set of source pixel values (Green col. 5 lines 36-37 and col. 9 lines 38-44: The first cited passage discloses histogramming as a way to calculate thresholds. The second cited passage shows that these thresholds are indeed calculated independently in each set of source pixel values (i.e. each digitized channel)).

Green further discloses performing particle detection independently in each set of source pixels values using the corresponding threshold (Green col. 5 line 45 – col. 6 line 6).

With regard to claim 2, many of the limitations recited in the claim were discussed in the above argument with respect to claim 2. Those limitations will not be addressed again. Steps (iii) and (iv) of claim 2, however, contain limitations not previously discussed. These limitations will be addressed below.

With regard to step (iii), Green further discloses identifying, for each particle identified in a particular set of source pixels values in step (2), the corresponding pixels in the remaining sets of source pixel values (Green col. 6 lines 7-14, referring to the table on col. 5 lines 55-65).

With regard to step (iv), Green discloses analyzing the pixels identified in steps (2) and (3) (Green col. 6 lines 12-14: The reference discloses that “sample region classification signals” are produced. Green elaborates on the subject of producing “sample region classification signals” at col. 11 lines 1-9 of the specification. We can easily see from this passage, *inter alia*, that the pixels identified in steps (2) and (3) are indeed analyzed.

With regard to claim 1, the limitations of the claim which have been discussed above will not addressed hereinafter.

With regard to step (c), Green discloses generating sets of enhanced pixel values by independently modifying each set of pixel values to selectively enhance spatial features indicative of a target particle (Green col. 10 lines 27-57: The Green reference discloses spatially filtering each set of pixels. This spatial filtering as disclosed in Green is analogous to “generating sets of enhanced pixel values” as recited in the claim).

With regard to step (d), Green further discloses removing the distinct background characteristics from a channel (Green col. 12 lines 60-68: The “intermediate classifications” table shown in the cited passage shows that the background characteristics are set to zero (i.e. “removed”)).

With regard to steps (g), (h), and (i), the limitations of these steps were discussed in the above rejection of steps (ii), (iii), and (iv), respectively, of claim 2.

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The final paragraph of the claim merely repeats the limitations found in steps (g), (h), and (i).

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.
- Dunlay et al (USPN 6,620,591 B1).
 - Douglass et al (USPN 6,215,892 B1).
 - Harris et al. (USPN 6,400,487 B1)

All of the above references teach the limitation of calculating a threshold for each independent channel, and detecting particles in each independent channel, based on the calculated threshold.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick L Edwards whose telephone number is (703) 305-6301. The examiner can normally be reached on 8:30am - 5:00pm M-F.

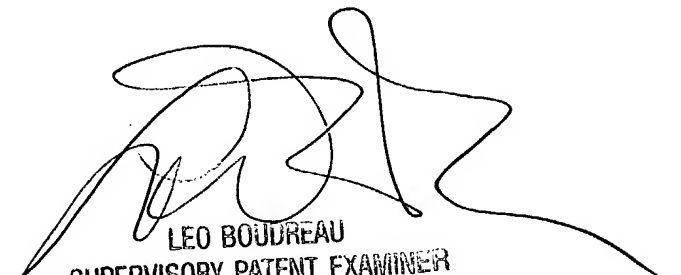

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo Boudreau can be reached on (703) 305-4706. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Patrick Lynn Edwards

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